

WHAT IS CLAIMED IS:

1. A lid assembly for creating a partial vacuum within a container, the lid assembly comprising:

- (a) a seat-portion for sealing connection to the container;
- (b) a pump configuration associated with said seat-portion and configured with a pumping element actuated in a reciprocating linear motion to pump gas from within the container to an external atmosphere; and
- (c) a rotatable actuating element mechanically associated with said pump configuration such that continuous rotation of said actuating element in a given rotational direction generates said reciprocating linear motion of said pumping element, thereby expelling a quantity of gas from the container to generate at least a partial vacuum.

2. The lid assembly of claim 1, wherein said actuating element substantially circumscribes at least a portion of said pump configuration such that said continuous rotation is about said pump configuration.

3. The lid assembly of claim 2, wherein one of said pumping element and said actuating element includes a longitudinally-wave-like groove, and the other of said pumping element and said actuating element includes at least one pump activation pin configured to engage said wave-like groove, such that

during said continuous rotation said activation pin contacts an edge of said longitudinally-wave-like groove, thereby generating said reciprocating linear motion

4. The lid assembly of claim 3, wherein said pumping element is a substantially cylindrical piston element, an outer surface of which is a circumferential wall configured with said groove circumscribing said wall so as to form a single continuous groove; and said actuating element includes said at least one pump activation pin.

5. The lid assembly of claim 1, further including a contents-dispensing mechanism for removing non-gaseous contents from the container while maintaining said at least a partial vacuum.

6. The lid assembly of claim 5, wherein said contents-dispensing mechanism includes a rotatable dispensing element deployed in said seat-portion, said dispensing element configured with a contents receptacle, and said dispensing element rotatable such that said contents receptacle is alternately alignable with a contents inlet, opening into said interior volume, and a contents outlet, opening to said exterior atmosphere, said contents inlet and said contents outlet being spaced apart such that as said contents receptacle alternates between said contents inlet and said contents outlet said contents receptacle passes through a region in which fluid communication between said contents receptacle and one of said contents inlet and said contents outlet is

fully interrupted before fluid communication is established with an other of contents inlet and said contents outlet.

7. The lid assembly of claim 1, further including a ratchet mechanism to limit rotation of said actuating element to said given rotational direction.

8. The lid assembly of claim 1, further including a lid-removal mechanism configured to selectively limit rotation of said actuating-ring in relation to said seat-portion.

9. The lid assembly of claim 8, wherein said lid-removal mechanism is engaged by displacing said actuating element a pre-limited distance in a direction longitudinally away from the container and displacing at least a portion of said actuating element inward toward said seat-portion so as to engage complementary teeth configured in both the actuating element and said seat-portion.

10. The lid assembly of claim 1, further including a vacuum indicator.

11. The lid assembly of claim 10, wherein said vacuum indicator is configured as a passage with at least one opening to said interior volume of the container and at least one opening to said exterior atmosphere, said opening to said exterior atmosphere being closed by a vacuum indicating element that is

displaceable between two different states so as to indicate vacuum and non-vacuum states within said interior of the container.

12. The lid assembly of claim 11, wherein said vacuum indicating element is configured from resilient material biased to a first state, so as to indicate said non-vacuum state, and displaceable to a second state, so as to indicate said vacuum state.

13. The lid assembly of claim 1, where said pump configuration includes at least one one-way inlet valve and at least one one-way outlet valve.

14. The lid assembly of claim 13, further including a filter element associated with said one one-way inlet valve.

15. A lid assembly for removing contents from a container in which a partial vacuum has been created while maintaining the vacuum in the container, the lid assembly comprising:

- (a) a seat portion configured for attaching the lid assembly to the container;
- (b) a contents inlet configured in said seat-portion, said contents inlet opening into an interior volume of the container;
- (c) a contents outlet configured in said seat-portion, said contents outlet opening to an exterior atmosphere of the container;
- (d) a rotatable dispensing element deployed in said seat-portion; and

- (e) a contents receptacle configured in said dispensing element, said dispensing element rotatable such that said contents receptacle is alternately alignable with said contents inlet and said contents outlet;

wherein said contents inlet and said contents outlet are spaced apart such that as said contents receptacle alternates between said contents inlet and said contents outlet said contents receptacle passes through a region in which fluid communication between said contents receptacle and one of said contents inlet and said contents outlet is fully interrupted before fluid communication is established with an other of contents inlet and said contents outlet.

16. The lid assembly of claim 15, wherein said rotatable dispensing element is actuated by a rotatable shaft manipulated from an exterior of said seat-portion.

17. The lid assembly of claim 15, wherein said rotatable dispensing element is configured as a substantially spherical element.

18. A screw on lid assembly for a container, the lid assembly configured to selectively limit removal of the lid assembly from the container, the lid assembly comprising:

- (a) a seat-portion for attaching the lid assembly to the container, said seat-portion including a substantially cylindrical lid body; and

- (b) a rotating actuating ring rotatably attached to said seat-portion so as to circumscribe said cylindrical body, at least a portion of said actuating ring configured as a locking tab being displaceable between a normal free-rotation position, in which said actuating-ring is free to rotate in relation to said seat-portion, and a locked non-rotation position, in which the position of said actuating-ring is locked in relation to said seat-portion;

wherein said locked position is engaged by displacing said actuating-ring a pre-determined distance in a direction longitudinally away from the container and displacing said locking tab inward toward said seat-portion so as to engage complementary teeth configured in both the actuating-ring and the seat-portion.